

**Development of the Gulf of Mexico Coastal Ocean Observing
System (GCOOS) and its Regional Association (GCOOS-RA):
Phase II
NA05NOS4731167**

**Progress Report
December 1, 2006 - May 31, 2007**

Prepared by
Worth D. Nowlin, Jr. and Ann E. Jochens

on behalf of the
GCOOS Regional Association

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1.0 Project Summary

1.1 Goals There are two overall goals of this project.

Goal 1: To establish a Regional Association (RA) to develop, support, and enhance the Gulf of Mexico Coastal Ocean Observing System (GCOOS) and be its representative within the National Federation of Regional Associations (NFRA). This includes certification of the RA. This goal is quite specific and will be attained before this three-year project ends.

Goal 2: To assist in the development of the GCOOS as a regional coastal ocean observing system (RCOOS) contributing to the U.S. Integrated Ocean Observing System (IOOS). This is the more general goal; these RCOOSs never will be complete, so development still will be ongoing when this project ends. However, this project's activities, which are enhancements of efforts that the principal investigator and other key personnel have been engaged in since late 2000, will make significant improvements in the organization, integration, planning and execution of GCOOS.

1.2 Objectives The objectives are listed here as contributing principally either to Goal 1 or 2. However, many objectives contribute to both goals.

1.2.1 Objectives contributing primarily to Goal 1

- 1.2.1-1 Ratify a governance structure for the GCOOS-RA by open membership of interested parties. A Memorandum of Agreement was ratified as the initial structure 01/2005.
- 1.2.1-2 Implement the GCOOS-RA structure by electing or appointing officers and members of all organizational structures. Board formed 06/2005; Councils/committees 04/2006.
- 1.2.1-3 Select GCOOS representatives to the NFRA. Selected in August 2005.
- 1.2.1-4 Prepare a GCOOS Business Plan. Draft available for comment. The plan is being revised based on comments received to date.
- 1.2.1-5 Obtain certification of the GCOOS-RA by appropriate body of IOOS.
- 1.2.1-6 Strengthen or develop linkages between GCOOS and other RCOOSs (especially SECOORA and CaRA), federal agencies supporting national backbone observations in the Gulf of Mexico, and the Gulf coastal observing programs of Mexico and Cuba.

1.2.2 Objectives contributing primarily to Goal 2

- 1.2.2-1 Form the GCOOS Education and Outreach Council, which will prepare an education and outreach plan for GCOOS. Implement the initial phases of that plan with resources provided by this project. Council formed by April 2006.
- 1.2.2-2 Broaden the number of users and better identify current and potential user requirements.
- 1.2.2-3 Establish data standards and protocols for GCOOS adhering to the DMAC Plan.
- 1.2.2-4 Continue integration of real-time data collection and of archived data in the region.
- 1.2.2-5 Entrain into the system additional operators of extant observing system elements, with focus on elements sponsored by state or local government or the private sector.

1.3 Tasks The project has six tasks with activities designed to meet the foregoing objectives:

- 1.3.1 Develop the GCOOS-RA,
- 1.3.2 Entrain users and develop user requirements,
- 1.3.3 Develop the education and outreach component,
- 1.3.4 Develop a GCOOS Business Plan—a blueprint for the future,
- 1.3.5 Assist with integrating, sustaining, enhancing, and monitoring the GCOOS, and

1.3.6 Develop linkages to other RAs, programs, agencies, and entities with similar interests.

2.0 Progress and Accomplishments

During this semiannual period of performance, numerous activities were undertaken to improve the GCOOS-RA organizational structure and advance planning and implementation of the RA and the GCOOS itself. A primary focus was on engaging the stakeholder communities. Without significant funding available for implementation of pilot projects, observational components, or data management activities, the GCOOS-RA nevertheless was able to make significant strides forward in development of the RA and interest by stakeholders in the regional ocean observing system. It should be noted that the GCOOS-RA prepared three proposals in response to the FY07 call for proposals by the Coastal Services Center (CSC) to strengthen regional coastal ocean observing systems; funding will be provided based on two of these to begin significant integration of GCOOS components through improved data and product management. Activities and accomplishments for RA development are:

2.1 RA Organizational Structure

The Memorandum of Agreement (MoA), effective in January 2005 with minor revisions in October 2005 and January 2006, is the instrument that governs the GCOOS-RA. The membership of the GCOOS-RA consists of Parties to the MoA within three classes: voting, non-voting (individuals), and associate (non-U.S. entities). There were no changes to the Board of Directors or to the Office staff. Council and Committee membership continues to evolve as the Board identifies needs. A GCOOS Education and Outreach Coordinator has been hired effective April 16, 2007.

Selected Specific Activities

- The Education and Outreach Council (EOC) recommended as highest priority hiring a GCOOS Education and Outreach Coordinator. The leadership of that committee prepared a position description, a work plan and a proposal for so doing. A subcontract to Dr. Sharon Walker at the University of Southern Mississippi (USM) in Ocean Springs, MS, has been initiated to support the activities of a GCOOS Education and Outreach Coordinator. After an open search, Ms. Tami Wells was hired in that position. Working at USM will put the Education and Outreach Coordinators for GCOOS, SECOORA, the Gulf of Mexico Alliance, and the Central Gulf Ocean Observing System in close proximity to each other and directed by a core group that should result in close coordination and synergism.
- Efforts to expand the membership in the GCOOS-RA through work of the Membership Committee, Board members, and GCOOS Office staff have continued. Parties to the MoA now number seventy-two.
- The terms of five members of the Board will end at the beginning of the summer meeting in 2007 (usually held in August). On January 19, 2007, the GCOOS Membership Committee asked the current members whether they would run for re-election. All agreed to run. On January 22, 2007, Susan Martin sent a message to everyone on the GCOOS

email list requesting nominations of candidates for election to the GCOOS Board of Directors. Nominations were to be received by February 9, 2007. None were received. The ballot was sent to the voting parties on February 22, 2007 with a deadline of February 28, 2007. Landry Bernard announced the results at the March 6-7, 2007 Board of Directors meeting. These three year terms will commence at the fall 2007 meeting and run through the beginning of the fall 2010 meeting.

2.2 Planning and Implementation

A draft of the GCOOS Business Plan has been prepared and posted to the GCOOS web for comments. Comments from the Board and Councils/Committees were obtained. These, together with comments from others, are being considered as the draft is revised. Particular focus will be placed on how to plan around the substantial delay in expected federal funding levels. Included in the Business Plan will be reference to the GCOOS Observing System Plan that is being drafted by the Observing Systems Committee and that will address observing system design for the region. The Data Management and Communications Committee has considered data management issues, and, working with the Operating Systems Committee, the Office staff and the Board, has prepared proposals for standardization and completion of GCOOS data nodes and development of a data portal as the first phase of a regional operations center.

The priorities of the GCOOS regional observing system are being identified and refined through sector specific workshops. Two were held in previous reporting periods (for the managers monitoring harmful algal blooms and for the oil and gas and related sectors) and information on them is posted to the GCOOS web. A third (for users of information relating to the mitigation of inundation events) was held during this reporting period. Other activities focused on development of workshops to be held in the future, on engaging the fisheries sector through follow-up activities to earlier meetings with the regional fisheries groups (Gulf of Mexico Fishery Management Council and Gulf States Marine Fisheries Commission, and on preparations for developing a detailed plan, including costs estimates, for a harmful algal blooms (HABs) observing system for the Gulf of Mexico.

Selected Specific Activities

- GCOOS representatives participated in near monthly telephone calls with representatives of other RAs, Ocean.US, and federal representatives. They also participated in numerous NFRA business and informational teleconferences. This has maintained increasingly better communication between the RAs.
- On December 6, 2006, a sub-committee of the GCOOS Board of Directors participated in a telephone discussion regarding the prospectus for development of a proven three-dimensional circulation model of the Gulf of Mexico. Agreement was reached on improvements to this prospectus.
- The GCOOS Board of Directors instituted a formal conflict of interest statement for Board members and others needing a measure of protection. The Board provided comments to Ann Jochens on a draft COI procedure at its August 2006 meeting. She incorporated those

comments into a final COI procedure, and presented it to the Board at its March 2007 meeting. The Board then adopted the procedure, which is included in the meeting report that is posted to the GCOOS web.

- The GCOOS Board held its semi-annual meeting in New Orleans, LA, on March 6-7, 2007. The Parties to the GCOOS-RA and the GCOOS Stakeholder Council also met at this location and time. Combined minutes of these meeting are on the GCOOS web site. Personnel from the Gulf of Mexico Alliance were in attendance.
- A draft GCOOS Communication Plan was presented to and reviewed by the Board at its March 2007 meeting. It will be revised according to the discussion.
- A Procedure for Selecting Proposal Areas was crafted and reviewed/adopted by the GCOOS Board. That procedure was used in selecting four areas for which Letters of Intent were submitted in response to the FY07 Call for Proposals by the NOAA CSC in January 2007. All four letters of Intent were accepted, and the GCOOS-RA responded with three proposals. One proposal was selected for full funding; one was declined; and one was selected for partial funding.
- The GCOOS Office continues to refine its list serve of stakeholders. They receive pertinent information regarding system developments via email. This list serve also is used to solicit opinion and inputs.

2.3 Stakeholder Engagement

Stakeholder engagement for the reporting period has mainly been through a meeting of the Stakeholder Council, information emails to the GCOOS list serve, a workshop on mitigation of storm surge and inundation effects, planning of focused sector specific workshops, and presentations on GCOOS in various forums.

Selected Specific Activities

- The GCOOS web site (<http://www.gcoos.org>) is the major source of information regarding the GCOOS system of systems and development of a certified Regional Association (GCOOS-RA). It continues to undergo revision and improvement.
- On December 18, 2006, Ray Toll met with Margaret Davidson in Charleston, SC, to discuss GCOOS activities.
- On January 24-26, 2007, the GCOOS-SECOORA Storm Surge and Inundation Workshop was held in New Orleans, LA. Worth Nowlin chaired and Ann Jochens participated in the steering committee for this workshop. Susan Martin made logistical arrangements for the workshop. The CSC assisted financially and through its personnel in the organization, implementation, and reporting of this workshop. The workshop report may be viewed on the GCOOS web site.

- On January 30, 2007, Worth Nowlin attended the NOAA Hypoxia Summit held at Stennis Space Center, MS, and gave a presentation, entitled "Status and Plans for the GCOOS: a component of the U.S. Integrated Ocean Observing System", on behalf of himself and Ann Jochens.
- On February 5-7, 2007, Ann Jochens attended the ACT-sponsored meeting "Towed Underwater Vehicles as Platforms for Mapping of Coastal Features and Processes" in Monterey, CA. As one of several representatives of regional associations, she contributed to providing the perspective of IOOS and the development of regional associations. She was the discussion leader of one of the break-out sessions.
- On March 6, 2007, Ray Toll briefed Captain Hardin of the U.S. Coast Guard's District 8 office regarding GCOOS at their New Orleans office.
- On March 6-7, 2007, the annual meeting of the GCOOS Stakeholder Council was held in New Orleans, LA. The meeting report is available on the GCOOS web site.
- On March 8-9, 2007, Ray Toll and Buzz Martin represented GCOOS at the meeting of the National Federation of Regional Associations held in Washington, DC.
- Michael Spranger, Chairman of the GCOOS Education and Outreach Council, presented "GCOOS Overview and Update" at the Gulf of Mexico Sea Grant Extension Regional Meeting held 13-15 March 2007 in conjunction with the Gulf States Marine Fishery Commission.
- On March 30, 2007, Jan van Smirren presented "GCOOS and the oil and gas business" to three engineers from Instituto Mexicano Del Petroleo who visited his office in Houston. The engineers were Dr. Efrain Rodriguez Sanchez, M.I. Ernesto Salazar Marquez, and Enrique Marcial Martinez.
- Ann Jochens participated in the 25-26 April 2007 meeting of the Gulf of Mexico Alliance (GOMA) Nutrient and Water Quality Team Leaders at Stennis Space Center, MS. This meeting was held to plan activities for a joint workshop of the two GOMA priority areas that will be held in July 2007. She provided background information and was a resource person on IOOS in general and GCOOS in particular. She continues to be a resource person for these important GCOOS stakeholder constituencies.
- On May 11, 2007, Ray Toll, Paul Moersdorf, and Landry Bernard briefed Dr. Antonio Diaz de León from Pemex regarding NDBC and GCOOS. Discussions were held to discuss future collaboration between Mexico and the Gulf of Mexico regional association regarding data sharing.
- Ann Jochens submitted a paper, entitled Gulf of Mexico Coastal Ocean Observing System: Providing Data and Products for Users of the Coastal Environment, for the proceedings of the 31st Annual Conference of the Association of State Floodplain Managers that was being held in Norfolk, VA, on 4-8 June 2007. She also prepared the associated presentation to be

given at the conference on 5 June and a brief talk on IOOS to be given at the meeting of the ASFPM Coastal Issues Committee on 4 June. Jochens has also talked with Maria Honeycutt, the co-chair of the Coastal Issues Committee, and offered to be a resource person on IOOS issues.

- Ann Jochens and Worth Nowlin were invited to prepare a paper on "Development of a Coastal Ocean Observing System for the Gulf of Mexico" to be published in the Marine Technology Society Journal. It was successfully reviewed, accepted, and published as pages 100-109 in Volume 40, No. 4, winter 2006/2007. Reprints have been distributed widely and are being made available at meetings attended by the Office staff.
- Planning is proceeding for a GCOOS Workshop for representatives of the maritime transportation industry to determine their requirements. Transportation elements to be invited to participate include representatives from tankers, container ships, cruise ships, shipping agents, port authorities, pilots, LNG carriers, intercoastal waterway commercial traffic, and commercial transportation of people.
- Planning has begun for a GCOOS workshop for urban planners and developers to determine their requirements.

3.0 Scope of Work

Most major activities planned for the reporting period were conducted. However, certification was not requested because the process is not yet in place with any federal entity to do so. The GCOOS-RA generally is on track for activities planned for the next funding period, except those which require the expected IOOS funding enhancements to the regions that are not available due to the present federal funding crisis. Within the limits of the federal funding constraints, the priorities for the next funding period are:

- Initiate the activities to improve GCOOS data management and integrate the system as described in the two proposals to be funded near the beginning of 2008 by the NOAA CSC.
- Complete a draft of the GCOOS Observing System Plan
- Complete a new draft of the GCOOS Business Plan.
- *We will seek additional funds for the third year of this award to fully fund the activities of this Coordinator for a second year of support for our GCOOS Education and Outreach Coordinator.* We have in the third budget year for this project some funding for Education and Outreach activities, but not enough to fully fund the EOC Coordinator. We must either request additional funds or re-identify the uses for some of the monies in our current budget.
- Obtain limited insurance for Board members and attendees at GCOOS meetings—*this may require some re-programming of funds.* Discussions are being held with insurance agents to identify costs.

- Complete planning for and, if possible, conduct the specific stakeholder workshops to identify needs and priorities for the marine transportation and urbanplanners/developers sectors.
- Plan stakeholder workshops for the recreational boating sector.
- Continue with identification of needed measurements and products for the fishing communities. GCOOS representatives will meet with personnel from NOAA's Southeast Fisheries Science Center for this purpose.
- Continue development of a detailed plan for a harmful algal blooms (HABs) observing system for the Gulf of Mexico.
- Continue with identification of needed measurements and products for the emergency responders and planners in storm surge and inundation events through (1) follow-up on results of the workshop, and (2) engagement of the Coastal Issues Committee of the Association of State Floodplain Managers.
- Continue to develop prospecti for GCOOS Pilot Projects and identify and obtain funding for them as feasible.
- Complete and implement the GCOOS Communication Plan.
- Continue efforts to better integrate GCOOS activities with those of CaRA and Mexico.
- Continue development of linkages between the GCOOS Education and Outreach Council and the education/outreach components of other groups, such as the Gulf of Mexico Alliance and various NOAA units.
- Attempt to energize our three Committees: Operating Systems, Products and Services, and DMAC. Each has an Action Plan. *The difficulty is the lack of adequate funding to carry out the recommended activities.*
- Commence development of an Education and Outreach Strategic Plan.
- Increase membership in the GCOOS-RA.

4.0 Leadership Personnel

No changes in key scientific or management personnel related to the GCOOS Office are anticipated. Worth Nowlin continues as principal investigator. Dr. Ann E. Jochens continues as the GCOOS Regional Coordinator, Dr. Matthew K. Howard as the regional DMAC Coordinator, and Susan Martin as the administrative assistant in the GCOOS Office.

Parties to the GCOOS Memorandum of Agreement may elect new members to the Board of Directors to replace retiring members. The Board can change the membership of GCOOS Councils or Committees as it sees necessary. The present composition of the Board, Councils, and Committees is posted on the GCOOS web site.

5.0 Budget Analysis

Budget expenditures to date have been very close to anticipated or planned budgets. One exception is that we spent somewhat less than anticipated in salaries during year one so that we had some monies that we transferred to the category of subcontracts in order to increase the amount contributed to education and outreach activities via subcontracts.

We will need to subcontract additional monies to the University of Southern Mississippi for a second year of activities as recommended by the GCOOS Education and Outreach Council.

Financial reports are up to date, with the most recent being submitted to NOAA on April 30, 2007 covering the period 1 October 2006 - 31 March 2007.